

AD-A062 000 ARMY ELECTRONICS COMMAND WHITE SANDS MISSILE RANGE N--ETC F/O 4/2
12828F LANCE, MISSILE NUMBER 2219, ROUND NUMBER 320 DST.(U)
NOV 78

ARMY ELECTRONICS COMMAND WHITE SANDS MISSILE RANGE N--ETC F/G 4/2
12828F LANCE, MISSILE NUMBER 2219, ROUND NUMBER 320 DST.(U)
NOV 78

ECON-DR-979

NL

1000
 1000
 1000

END
DATE
FILMED
3-79
DDC

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

DR-979
November 1978

AD



LEVEL II

METEOROLOGICAL DATA REPORT

12828F LANCE
MISSILE NO. 2219, ROUND NO. 320 DST
(20 OCTOBER 1978)

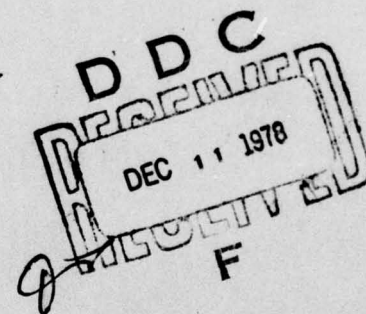
BY

WSMR METEOROLOGICAL TEAM

AD A062000

DDC FILE COPY

THIS DOCUMENT IS UNCLASSIFIED
DATE 07-10-2001 BY 60322 UCBAW
EXEMPT FROM GDS OF EARLY RELEASE
EXEMPTION CODE: 1.



ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

ECOM

UNITED STATES ARMY ELECTRONICS COMMAND

78 12 07 040

DISPOSITION INSTRUCTIONS

Destroy this report when it is no longer needed. Do not return to the originator.

DISCLAIMER

The findings in this report are not to be construed as an official Department of the Army position, unless so designated by other authorized documents.

The citation of trade names and names of manufacturers in this report is not to be construed as official Government indorsement or approval of commercial products or services referenced herein.

DISCLAIMER NOTICE

**THIS DOCUMENT IS BEST QUALITY
PRACTICABLE. THE COPY FURNISHED
TO DDC CONTAINED A SIGNIFICANT
NUMBER OF PAGES WHICH DO NOT
REPRODUCE LEGIBLY.**

UNCLASSIFIED
SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

ECON-REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER DR-979	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) 12828F LANCE, MISSILE 2219, ROUND 320 DST.	5. TYPE OF REPORT & PERIOD COVERED	
6. AUTHOR WSMR METEOROLOGICAL data rept.	6. PERFORMING ORG. REPORT NUMBER	
7. PERFORMING ORGANIZATION NAME AND ADDRESS	8. CONTRACT OR GRANT NUMBER DA TASK 1T665702D127-02	
11. CONTROLLING OFFICE NAME AND ADDRESS US ARMY ELECTRONICS COMMAND ATMOSPHERIC SCIENCES LABORATORY WHITE SANDS MISSILE RANGE, NEW MEXICO	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS	
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) US ARMY ELECTRONICS COMMAND FT. MONMOUTH, NEW JERSEY	12. REPORT DATE NOVEMBER 1978	
	13. NUMBER OF PAGES 47	
15. SECURITY CLASS. (of this report) UNCLASSIFIED		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) APPROVED FOR PUBLIC RELEASE: DISTRIBUTION UNLIMITED.		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) 1. BALLISTICS 2. METEOROLOGY 3. WIND		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) METEOROLOGICAL DATA GATHERED FOR THE LAUNCHING OF 12828F LANCE, MISSILE NUMBER 2219, ROUND NUMBER 320 DST, ARE PRESENTED IN TABULAR FORM.		

DD FORM 1 JAN 73 1473

EDITION OF 1 NOV 65 IS OBSOLETE

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

400 844

18

CONTENTS

	PAGE
INTRODUCTION -----	1
DISCUSSION -----	1
TABLES	
I. Surface Observations taken at LC-33 -----	1
II. Pilot-Balloon-Measured Wind Data, Release 1 at 1220 HRS MST -----	2
III. Pilot-Balloon-Measured Wind Data, Release 2 at 1230 HRS MST -----	4
IV. Anemometer Measured Wind Speed and Direction, Pole No. 1 at 1230 HRS MST -----	7
V. Anemometer Measured Wind Speed and Direction, Pole No. 2 at 1230 HRS MST -----	8
VI. Anemometer Measured Wind Speed and Direction, Pole No. 3 at 1230 HRS MST -----	9
VII. WSD Significant Level Data (Release Time: 1135 HRS MST) -----	10
VIII. WSD Upper Air Data (Release Time: 1135 HRS MST) -----	12
IX. WSD MRN Significant Level Data (Release Time: 1135 HRS MST) -----	17
X. WSD Mandatory Levels (Release Time: 1135 HRS MST) -----	18
XI. WSD MRN Mandatory Levels (Release Time: 1135 HRS MST) -----	19
XII. NW 30 Significant Level Data (Release Time: 1140 HRS MST) -----	20
XIII. NW 30 Upper Air Data (Release Time: 1140 HRS MST) -----	22
XIV. NW 30 MRN Significant Level Data (Release Time: 1140 HRS MST) -----	29
XV. NW 30 Mandatory Levels (Release Time: 1140 HRS MST) -----	30

	PAGE
XVI. NW 30 MRN Mandatory Levels (Release Time: 1140 HRS MST) -----	31
XVII. APA Significant Level Data (Release Time: 1140 HRS MST) -----	32
XVIII. APA Upper Air Data (Release Time: 1130 HRS MST) -----	34
XIX. APA MRN Significant Level Data (Release Time: 1130 HRS MST) -----	41
XX. APA Mandatory Levels (Release Time: 1130 HRS MST) -----	42
XXI. APA MRN Mandatory Levels (Release Time: 1130 HRS MST) -----	43

INTRODUCTION

12828F Lance, Missile Number 2219, Round Number 320 DST, was launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1230 HRS MST, 20 October 1978. The scheduled launch time was 1230 HRS MST.

DISCUSSION

Meteorological data were recorded and reduced by the WSMR Meteorological Team, Atmospheric Sciences Laboratory (ASL), WSMR, New Mexico. The data are presented in the following tabulations.

ELEVATION	3,977.30	FEET/MSL
PRESSURE	886.6	MBS
TEMPERATURE	23.6	°C
RELATIVE HUMIDITY	30	%
DEW POINT	4.9	°C
DENSITY	1,035	GM/M ³
WIND SPEED	03	MPH
WIND DIRECTION	170	DEGREES
CLOUD COVER	1 7	Ac Cs

TABLE I. SURFACE OBSERVATIONS TAKEN AT LC-33,
1230 HRS MST/20 OCTOBER 1978.

ACCESSION for	
NTIS	<input checked="" type="checkbox"/> Full Section
DDC	<input type="checkbox"/> Full Section
UNANNOUNCED	<input type="checkbox"/>
JUSTIFICATION	
BY	
DISTRIB	COPIES
DI	SPECIAL
<div style="font-size: 2em; font-weight: bold;">A</div> <div style="font-size: 2em; font-weight: bold;">23</div> <div style="font-size: 2em; font-weight: bold;">G</div>	

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
SUR	170	03.0
100	175	04.0
200	180	05.0
300	171	06.0
400	170	05.5
500	186	04.5
600	225	06.5
700	225	06.5
800	222	06.0
900	209	05.0
1000	198	04.5
1100	186	05.0
1200	169	05.0
1300	151	05.0
1400	139	05.5
1500	138	06.0
1600	148	06.5
1700	160	07.5
1800	169	08.0
1900	180	08.5
2000	180	08.5

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
2100	167	09.0
2200	169	10.5
2300	175	12.5
2400	184	13.5
2500	191	12.5
2600	201	12.5
2700	205	11.5
2800	216	09.5
2900	225	10.5
3000	223	11.0
3100	222	12.0
3200	217	13.0
3300	217	13.0
3400	214	13.5
3500	211	13.5
3600	209	13.0
3700	208	13.0
3800	203	13.0
3900	201	13.0
4000	198	11.0
4100	196	11.0

TABLE II. PILOT-BALLOON-MEASURED WIND DATA, RELEASE NO. 1
RELEASED FROM LC-33, AT 1220 HRS MST/20 OCTOBER 1978
12828F LANCE, MISSILE NO. 2219, ROUND NO. 320 DST

PIBAL RELEASE POINT WSTM COORDINATES:

X = 486,037.24 Y = 182,350.16 Z = 3,977.30

APPROXIMATELY: 1/2 MILE SOUTH OF LAUNCHER.

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
4200	197	12.0
4300	200	13.5
4400	203	13.0
4500	203	13.0
4600	203	13.0
4700	204	12.0
4800	208	12.0
4900	212	12.5
5000	213	12.0
5100	211	11.5
5200	209	12.5
5300	209	12.5
5400	217	13.0
5500	219	13.0
5600	218	12.0
5700	220	11.5
5800	223	11.0
5900	225	10.5
6000	225	09.0
6100	227	08.0
6200	235	08.0
6300	238	07.5
6400	238	07.5
6500	238	07.5

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
6600	242	07.5
6700	245	08.5
6800	248	08.0
6900	248	08.0
7000	246	08.5
7100	246	08.5
7200	246	08.5
7300	248	09.0

TABLE II. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

78 12 07 040

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)	HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
SUR	170	03.0	2100	194	08.0
100	CALM	CALM	2200	187	08.0
200	180	02.0	2300	194	08.0
300	198	03.0	2400	212	09.5
400	175	06.0	2500	213	10.0
500	165	08.0	2600	212	09.5
600	163	08.5	2700	207	09.0
700	161	09.0	2800	199	09.0
800	162	10.0	2900	201	08.5
900	163	10.5	3000	205	08.5
1000	163	10.5	3100	212	09.5
1100	162	08.0	3200	211	11.5
1200	162	08.0	3300	215	12.0
1300	162	08.0	3400	216	13.0
1400	162	08.0	3500	212	13.0
1500	163	08.5	3600	203	13.0
1600	167	08.5	3700	197	13.5
1700	164	09.0	3800	197	14.0
1800	167	08.5	3900	194	14.5
1900	176	08.0	4000	194	15.0
2000	197	08.5	4100	193	16.0

TABLE III. PILOT-BALLOON-MEASURED WIND DATA, RELEASE NO. 2
RELEASED FROM LC-33, AT 1230 HRS MST/20 OCTOBER 1978
12828F LANCE, MISSILE NO. 2219, ROUND NO. 320 DST

PIBAL RELEASE POINT WSTM COORDINATES:

X = 486,037.24 Y = 182,350.16 Z = 3,977.30

APPROXIMATELY: 1/2 MILE SOUTH OF LAUNCHER.

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)	HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
4200	190	17.5	6600	229	10.0
4300	191	18.0	6700	231	09.5
4400	192	17.5	6800	231	09.5
4500	194	17.0	6900	231	09.5
4600	198	16.5	7000	234	09.5
4700	198	16.0	7100	234	09.5
4800	200	16.0	7200	238	09.5
4900	203	14.0	7300	238	09.5
5000	203	14.0	7400	241	09.0
5100	204	13.5	7500	241	09.0
5200	204	13.5	7600	238	09.5
5300	204	13.5	7700	235	09.5
5400	204	13.5	7800	235	09.5
5500	207	13.5	7900	237	10.0
5600	209	13.0	8000	239	10.5
5700	211	13.5	8100	247	10.5
5800	214	13.5	8200	253	10.5
5900	214	13.5	8300	257	11.0
6000	216	13.0	8400	257	11.0
6100	216	13.0	8500	257	11.5
6200	217	12.5	8600	255	12.0
6300	218	12.0	8700	254	12.5
6400	220	11.5	8800	250	13.5
6500	225	10.5	8900	248	14.5

TABLE III. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
9000	248	16.0
9100	250	17.5
9200	250	19.0
9300	250	20.0
9400	249	21.0
9500	249	22.0
9600	249	23.5
9700	250	24.0
9800	252	24.0
9900	253	24.0
10000	254	24.0
10100	254	23.5
10200	254	23.0
10300	253	22.5
10400	255	23.0
10500	255	23.0
10600	255	23.5
10700	256	23.0
10800	257	23.0
10900	259	23.5
11000	259	23.5
11100	258	24.0
11200	257	24.5
11300	256	24.5

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
11400	255	25.5
11500	254	26.0
11600	253	26.5
11700	251	27.5
11800	248	28.5
11900	246	29.5
12000	245	31.0

TABLE III. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

TIME (SEC)	SPEED (MPH)	DIR DEG
-30.0	05.0	M
-20.0	06.0	M
-10.0	05.0	M
00.0	05.0	M
+10.0	05.0	M

TABLE IV. ANEMOMETER MEASURED WIND SPEED AND DIRECTION, POLE NO. 1
RELEASED FROM LC-33, AT 1230 HRS MST/20 OCTOBER 1978
12828F LANCE, MISSILE NO. 2219, ROUND NO. 320 DST

WSTM COORDINATES: X = 485,874.29 Y = 185,958.90 Z = 4,018.74

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

TIME (SEC)	SPEED (MPH)	DIR DEG
-30.0	05.0	M
-20.0	05.0	M
-10.0	05.0	M
00.0	04.0	M
+10.0	03.0	M

TABLE V. ANEMOMETER MEASURED WIND SPEED AND DIRECTION, POLE NO. 2
RELEASED FROM LC-33, AT 1230 HRS MST/20 OCTOBER 1978
12828F LANCE, MISSILE NO. 2219, ROUND NO. 320 DST

WSTM COORDINATES: X = 485,874.93 Y = 186,012.00 Z = 4,033.57

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

TIME (SEC)	SPEED (MPH)	DIR DEG
-30.0	04.0	M
-20.0	03.0	M
-10.0	03.0	M
00.0	04.0	M
+10.0	04.0	M

TABLE VI. ANEMOMETER MEASURED WIND SPEED AND DIRECTION, POLE NO. 3
RELEASED FROM LC-33, AT 1230 HRS MST/20 OCTOBER 1978
12828F LANCE, MISSILE NO. 2219, ROUND NO. 320 DST

WSTM COORDINATES: X = 485,877.29 Y = 186,116.06 Z = 4,063.92

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

STATION ALTITUDE 3989.00 FEET MSL
 20 OCT. 78
 ASCENSION NO. 098

SIGNIFICANT LEVEL DATA

2930020698
 WHITE SANDS

TABLE VII.

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE		REL. HUM. PERCENT	
984.8	3989.0	22.3	5.3	33.0
650.0	5125.1	13.0	3.1	37.0
813.6	6347.2	14.3	1.9	43.0
793.0	7033.4	14.7	2.9	45.0
753.0	8434.3	13.0	2.0	47.0
700.0	10434.1	8.0	-2.1	47.0
669.8	11637.3	5.7	-2.9	54.0
651.4	12435.1	5.0	-3.3	54.0
581.8	15440.1	-4	-7.6	58.0
556.8	16590.6	-3.0	-9.6	60.0
545.9	17104.8	-4.0	-18.2	32.0
536.2	17570.8	-2.9	-24.5	17.0
500.0	19362.6	-5.5	-24.8	20.0
459.8	21523.2	-11.0	-20.8	44.0
445.1	22341.0	-13.2	-32.4	18.0
427.8	23329.5	-15.7	-34.5	18.0
413.0	24155.7	-16.6	-35.3	18.0
400.0	24968.6	-19.1	-37.4	18.0
383.8	25997.3	-21.0	-39.5	17.0
319.0	30392.7	-32.3	-46.7	22.0
300.0	31811.7	-34.3	-46.8	28.0
263.4	35113.3	-37.2	-49.9	25.0
250.0	35922.1	-44.3		
200.0	40722.0	-55.7		
191.4	41542.6	-56.6		
150.0	46544.6	-64.6		
134.9	48765.9	-67.7		
109.2	52270.5	-66.8		
100.0	54700.5	-71.3		
93.4	56032.1	-73.3		

STATION ALTITUDE 3989.00 FEET MSL
20 OCT. 78
ASCENSION I.O. 096
1135 HRS MST

SIGNIFICANT LEVEL DATA
2930020098
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT
70.0 61599.8	-66.5	
50.0 68509.9	-61.4	
46.3 70067.8	-60.8	

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LONG DEG

UPPER AIR DATA
2930020690
WHITE SALON
TABLE VIII.

STATION ALTITUDE 3909.00 FEET MSL
20 OCT. 73 1135 HRS MST
ASCENSION NO. 698

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (IN) SPEED KNOTS	INDEX OF REFRACTION
3909.0	804.8	22.3	33.0	1039.3	670.9	.0	1.000270
4000.0	804.5	22.3	33.0	1039.1	670.9	.0	1.000270
4500.0	809.0	20.4	34.8	1027.6	666.6	1.9	1.000266
5000.0	853.8	18.5	36.6	1016.4	666.4	3.7	1.000261
5500.0	856.7	16.9	39.6	1004.0	664.6	5.5	1.000257
6000.0	823.8	15.4	41.3	991.4	662.8	7.3	1.000254
6500.0	809.1	14.4	43.4	977.0	661.7	9.2	1.000250
7000.0	794.7	14.7	44.9	958.4	662.1	11.2	1.000248
7500.0	766.5	14.1	45.6	943.0	661.3	10.8	1.000244
8000.0	760.5	13.6	46.3	928.1	660.3	10.3	1.000240
8500.0	752.6	12.9	47.0	913.5	663.1	9.8	1.000236
9000.0	739.2	11.8	47.0	900.0	658.8	9.1	1.000231
9500.0	725.9	10.8	47.0	887.0	657.5	8.2	1.000226
10000.0	712.7	9.7	47.0	875.3	656.1	7.5	1.000222
10500.0	697.8	8.6	47.0	862.9	654.8	7.1	1.000217
11000.0	687.0	7.4	50.0	850.8	653.4	7.5	1.000214
11500.0	674.5	6.2	52.9	836.9	652.0	9.8	1.000211
12000.0	662.1	5.4	54.0	823.7	651.1	12.7	1.000208
12500.0	649.8	4.9	54.1	812.0	650.3	16.5	1.000204
13000.0	637.7	4.0	54.8	799.5	649.4	19.0	1.000200
13500.0	625.8	3.1	55.4	787.2	648.3	20.4	1.000196
14000.0	614.2	2.2	56.1	775.2	647.2	21.3	1.000193
14500.0	602.7	1.3	56.7	763.3	646.2	22.0	1.000189
15000.0	591.5	.4	57.4	751.6	645.1	23.4	1.000186
15500.0	580.5	-.5	58.1	740.1	644.0	24.8	1.000182
16000.0	569.5	-1.7	59.0	729.2	642.0	24.0	1.000179
16500.0	558.7	-2.8	59.8	718.5	641.2	22.9	1.000175
17000.0	548.1	-3.8	37.7	708.0	639.8	20.1	1.000167
17500.0	537.7	-3.1	17.3	693.0	640.5	17.7	1.000159
18000.0	527.4	-3.5	17.7	681.0	639.9	17.5	1.000156

UPPER AIR DATA
2930020393
WHITE SANDS

STATION ALTITUDE 3939.00 FEET MSL
20 OCT. 78
ASCENSION NO. 393

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENFIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
18500.0	517.3	-4.2	18.5	669.5	639.0	229.4	17.5	1.000154
19000.0	507.4	-5.0	19.4	650.7	630.2	229.7	19.6	1.000151
19500.0	497.7	-5.8	21.3	640.1	637.2	229.7	21.7	1.000149
20000.0	488.1	-7.1	26.9	630.5	635.7	228.2	23.3	1.000147
20500.0	478.6	-8.4	32.5	629.2	634.2	227.0	24.6	1.000146
21000.0	469.3	-9.7	33.1	619.9	632.7	227.0	24.0	1.000144
21500.0	460.2	-10.9	43.7	610.9	631.1	227.2	23.2	1.000142
22000.0	451.2	-12.3	28.6	602.2	629.4	228.0	20.7	1.000138
22500.0	442.3	-13.6	13.0	593.4	627.7	226.4	18.5	1.000134
23000.0	433.5	-14.9	13.0	584.5	626.2	220.5	17.7	1.000132
23500.0	424.9	-15.9	18.0	575.2	625.0	214.9	20.9	1.000130
24000.0	415.4	-16.4	18.0	564.6	624.3	215.2	24.2	1.000128
24500.0	406.0	-17.6	13.0	550.1	622.6	215.9	27.5	1.000125
25000.0	397.8	-19.1	13.0	543.2	621.0	216.0	29.0	1.000124
25500.0	391.7	-20.1	17.5	539.1	619.6	215.7	28.5	1.000121
26000.0	383.6	-21.0	17.0	530.1	618.7	215.5	28.0	1.000119
26500.0	373.6	-22.3	17.6	521.7	617.1	214.7	26.4	1.000117
27000.0	367.9	-23.6	12.1	513.5	615.5	213.9	23.2	1.000115
27500.0	360.3	-24.9	13.7	505.4	613.9	212.9	21.6	1.000114
28000.0	352.8	-26.1	19.3	497.5	612.3	212.0	21.7	1.000112
28500.0	343.4	-27.4	13.5	489.7	610.7	213.5	22.4	1.000110
29000.0	335.3	-28.7	20.4	482.0	609.1	216.2	23.7	1.000108
29500.0	331.2	-30.0	21.0	474.5	607.5	221.0	25.4	1.000106
30000.0	324.3	-31.3	21.0	467.1	605.9	227.3	27.8	1.000105
30500.0	317.5	-32.5	22.5	459.6	604.4	231.4	30.0	1.000103
31000.0	310.7	-33.4	24.0	451.4	603.5	235.5	31.8	1.000101
31500.0	304.1	-34.5	25.7	443.4	602.2	235.0	33.2	1.000099
32000.0	297.5	-35.1	27.6	435.5	601.0	235.6	33.7	1.000098
32500.0	291.1	-36.1	26.4	427.7	599.9	230.5	34.3	1.000096
33000.0	284.3	-37.0	25.5	420.1	598.7	237.4	35.6	1.000094

STATION ALTITUDE 3239.00 FEET MSL
 20 OCT. 73 1135 HRS MST
 ASCENSION NO. 090

UPPER AIR DATA
 2430020090
 WHITE SANDS

GEOGETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
33500.0	273.6	-38.2	21.0**	413.1	597.1	238.3	37.0	1.000092
34000.0	272.4	-39.6	17.1**	406.3	595.4	238.9	38.5	1.000091
34500.0	269.4	-41.0	12.7**	399.7	593.7	239.4	40.0	1.000089
35000.0	260.5	-42.3	8.2**	393.1	591.9	240.1	41.0	1.000088
35500.0	254.8	-43.7	3.8**	386.7	590.2	240.9	41.8	1.000086
36000.0	249.1	-45.0		380.3	588.5	239.8	42.6	1.000085
36500.0	243.4	-46.1		373.4	587.0	237.8	43.3	1.000083
37000.0	237.8	-47.2		366.7	585.5	235.1	45.0	1.000082
37500.0	232.3	-48.4		360.1	584.1	232.3	47.3	1.000080
38000.0	227.0	-49.5		353.6	582.6	231.2	50.0	1.000079
38500.0	221.8	-50.7		347.2	581.1	231.3	53.0	1.000077
39000.0	216.7	-51.8		341.0	579.6	232.6	55.3	1.000076
39500.0	211.7	-52.9		334.9	578.1	236.3	56.8	1.000075
40000.0	206.8	-54.1		328.9	576.6	240.3	58.7	1.000073
40500.0	202.1	-55.2		323.0	575.1	245.7	61.8	1.000072
41000.0	197.4	-56.0		316.6	574.1	249.7	65.9	1.000071
41500.0	192.7	-56.5		309.6	573.5	250.8	72.3	1.000069
42000.0	188.1	-57.2		303.4	572.5	251.0	77.6	1.000068
42500.0	183.6	-58.0		297.2	571.5	249.7	80.4	1.000066
43000.0	179.2	-58.8		291.1	570.4	248.5	83.5	1.000065
43500.0	174.8	-59.5		285.2	569.3	247.4	87.7	1.000064
44000.0	170.6	-60.4		279.4	568.3	246.4	91.9	1.000062
44500.0	166.5	-61.2		273.7	567.2	246.0	83.4	1.000061
45000.0	162.5	-62.0		268.1	566.1	250.9	72.1	1.000060
45500.0	158.6	-62.8		262.6	565.1	254.2	62.6	1.000058
46000.0	154.8	-63.6		257.3	564.0	258.2	54.7	1.000057
46500.0	151.1	-64.4		252.1	562.9	261.6	50.0	1.000056
47000.0	147.4	-65.1		246.6	561.9	259.1	55.9	1.000055
47500.0	143.7	-65.9		241.5	560.9	257.1	61.9	1.000054
48000.0	140.2	-66.6		236.4	559.9	256.4	58.9	1.000053

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3489.00 FEET MSL
 20 OCT. 78 1135 HRS MST
 ASCENSION NO. 698

UPPER AIR DATA
 2930020090
 WHITE SANDS

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES (TN)	SPEED KNOTS	
46500.0	136.7	-67.3		231.4	550.9	260.0	55.3	1.000052
49000.0	133.3	-67.6		226.0	550.5	262.2	51.7	1.000050
49500.0	130.0	-67.5		220.3	558.0	264.9	48.2	1.000049
50000.0	126.8	-67.4		214.7	556.6	267.5	45.1	1.000048
50500.0	123.6	-67.3		209.3	550.9	266.2	43.0	1.000047
51000.0	120.6	-67.2		204.0	559.1	265.1	41.0	1.000045
51500.0	117.6	-67.1		198.8	559.2	259.7	39.2	1.000044
52000.0	114.7	-67.0		193.5	559.3	252.5	38.1	1.000043
52500.0	111.8	-66.9		188.9	559.5	245.2	36.8	1.000042
53000.0	109.0	-66.9		184.1	559.5	237.6	34.2	1.000041
53500.0	106.3	-66.2		180.7	557.8	229.0	32.3	1.000040
54000.0	103.6	-69.5		177.3	550.0	223.1	32.4	1.000039
54500.0	101.1	-70.9		173.9	554.2	218.3	33.1	1.000039
55000.0	98.5	-71.7		170.4	552.9	210.5	33.8	1.000038
55500.0	96.0	-72.5		166.7	551.5	224.5	34.5	1.000037
56000.0	93.6	-73.3		163.0	550.8	232.0	35.7	1.000036
56500.0	91.2	-72.7		158.5	551.5	240.0	33.2	1.000035
57000.0	88.9	-72.1		154.1	552.3	250.1	29.5	1.000034
57500.0	86.7	-71.5		149.8	553.2	259.1	26.0	1.000033
58000.0	84.5	-70.9		145.8	554.0	262.1	20.9	1.000032
58500.0	82.4	-70.3		141.5	554.8	267.0	16.0	1.000032
59000.0	80.3	-69.7		137.5	555.8	269.7	13.5	1.000031
59500.0	78.3	-69.1		133.7	550.4	273.3	11.2	1.000030
60000.0	76.3	-68.5		129.9	557.3	275.7	10.1	1.000029
60500.0	74.4	-67.9		126.3	558.1	275.8	10.2	1.000028
61000.0	72.5	-67.3		122.8	559.9	275.8	10.3	1.000027
61500.0	70.7	-66.7		119.3	559.7	276.2	11.0	1.000027
62000.0	69.0	-66.3		116.1	560.3	276.5	11.8	1.000026
62500.0	67.3	-65.9		113.1	560.8	276.6	12.4	1.000025
63000.0	65.6	-65.5		110.1	561.4	276.5	11.6	1.000025

GEODETIC COORDINATES
32.40043 LAT DEG
106.57033 LONG DEG

UPPER AIR DATA
2930020690
WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL
20 OCT. 73 1135 HRS PST
ASCENSION NO. 698

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
03500.0	04.0	-65.2		107.3	501.9	275.1	10.8	1.000024
04000.0	02.5	-64.8		104.5	562.4	273.9	9.6	1.000023
04500.0	01.0	-64.4		101.7	562.9	267.0	8.0	1.000023
05000.0	00.5	-64.0		99.1	563.4	253.3	6.4	1.000022
05500.0	00.0	-63.7		98.5	563.9	261.6	6.9	1.000021
06000.0	00.0	-63.3		94.0	564.4	267.5	8.0	1.000021
06500.0	00.2	-62.9		91.5	564.9	272.4	9.0	1.000020
07000.0	00.9	-62.5		89.1	565.4	279.3	9.4	1.000020
07500.0	02.0	-62.2		86.8	565.9	285.5	9.9	1.000019
08000.0	01.3	-61.8		84.3	566.4			1.000019
08500.0	00.0	-61.4		82.3	566.9			1.000018
09000.0	00.8	-61.2		80.2	567.2			1.000018
09500.0	47.6	-61.0		78.2	567.4			1.000017
70000.0	46.3	-60.8		76.3	567.7			1.000017

STATION ALTITUDE 3989.00 FEET MSL
20 OCT. 78
ASCENSION NO. 058

MRN SIGNIFICANT LEVEL DATA

2930020690
WHITE SANDS
TABLE IX.

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

GEOPOTENTIAL ALTITUDE DECEMETERS	DIRECTION DEG (TN)	WIND DATA		E-W MPS	DEW PT DEG C	TEMPERATURE		PRESSURE MILLIBARS
		SPEED MPS	N-S MPS			AIR DEG C		
2120.	9999.**	9999.**	-9999.**	-9999.**	99	-60.8		4.630+1
2080.	9999.**	9999.**	-9999.**	-9999.**	99	-61.4		5.000+1
1674.	276.	0.	-1.	0.	99	-66.5		7.000+1
1702.	235.	10.	11.	15.	99	-73.3		9.340+1
1662.	216.	17.	14.	10.	99	-71.3		1.000+2

** WIND DATA NOT COMPUTED DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

STATION ALTITUDE 3989.00 FEET MSL
20 OCT. 78
ASCENSION: NO. 698

MANDATORY LEVELS
2930 10690
WHT ANDS
T X.

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

PRESSURE	GEOPOTENTIAL	TEMPERATURE	REL. HUM.	WIND DATA	
				DIRECTION	SPEED
MILLIBARS	FEET	AIR DEGREES	PERCENT	(TN)	KNOTS
850.0	5121.	18.0	37.	188.5	4.1
800.0	5810.	14.6	44.	197.4	10.4
750.0	6590.	12.7	47.	211.0	9.7
700.0	7464.	8.6	47.	242.9	7.1
650.0	8480.	4.9	54.	250.1	16.4
600.0	9610.	1.1	57.	257.4	22.3
550.0	10830.	-3.6	43.	242.6	20.7
500.0	12032.	-5.5	20.	229.8	21.2
450.0	13243.	-12.5	27.	228.8	20.4
400.0	14461.	-19.1	15.	216.1	29.0
350.0	15684.	-26.6	19.	211.7	21.7
300.0	16917.	-34.8	25.	235.5	33.5
250.0	18143.	-44.8		240.1	42.4
200.0	19372.	-55.7		247.7	63.1
175.0	20617.	-59.5		247.5	87.5
150.0	21874.	-64.6		260.9	51.5
125.0	23134.	-67.4		266.8	44.0
100.0	24400.	-71.3		216.7	33.4
75.0	25660.	-59.6		259.9	13.4
50.0	26927.	-60.5		276.3	11.3
25.0	28192.	-61.4		263.2	7.1

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3489.00 FEET MSL
20 OCT. 78 1135 HRS MST
ASCENSION NO. 693

MR. MANDATORY LEVELS
2930020090
WHITE SANDS
TABLE XI.

GEODETTIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

GEOPOTENTIAL ALTITUDE DECAMETERS	DIRECTION DEG (TN)	WIND DATA		DEW PT DEG C	TEMPERATURE		PRESSURE MILLIBARS
		SPEED MPS	N-S MPS		AIR DEG C		
2080.	9999.**	9999.**	-9999.**	99	-61.4		5.000+1
1966.	263.	4.	0.	99	-64.2		6.000+1
1874.	276.	0.	-1.	99	-66.5		7.000+1
1794.	270.	7.	0.	99	-69.6		8.000+1
1602.	217.	17.	14.	99	-71.3		1.000+2
1528.	267.	23.	1.	99	-67.4		1.250+2
1416.	261.	26.	4.	99	-64.6		1.500+2
1323.	247.	45.	17.	99	-59.5		1.750+2
1238.	248.	32.	12.	99	-55.7		2.000+2
1092.	240.	22.	11.	99	-44.8		2.500+2
900.	235.	17.	10.	12	-34.8		3.000+2
658.	212.	11.	10.	16	-26.6		3.500+2
700.	216.	15.	12.	18	-19.1		4.000+2
672.	229.	11.	7.	15	-12.5		4.500+2
590.	230.	11.	7.	19	-5.5		5.000+2
515.	243.	11.	5.	11	-3.6		5.500+2
445.	257.	11.	2.	08	1.1		6.000+2
380.	250.	5.	3.	08	4.9		6.500+2
320.	243.	4.	2.	11	8.6		7.000+2
262.	211.	5.	4.	11	12.7		7.500+2
203.	197.	5.	5.	12	14.6		8.000+2
156.	189.	2.	3.	15	18.0		8.500+2

** WIND DATA NOT COMPUTED DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

GEODETIC COORDINATES
32.88497 LAT DEG
106.49714 LONG DEG

SIGNIFICANT LEVEL DATA

2930220044

NW 30

TABLE XII.

STATION ALTITUDE 4010.40 FEET MSL
20 OCT. 78
ASCENSION NO. 44

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES	DEWPOINT CENTIGRADE	
683.2	22.8	4.5	30.0
671.8	19.5	3.2	34.0
650.0	17.6	3.1	38.0
619.2	15.1	3.0	44.0
608.6	16.1	3.5	43.0
747.6	11.4	1.1	49.0
700.0	8.5	-1.9	48.0
660.6	4.2	-4.3	54.0
639.2	1.4	-3.6	69.0
623.8	1.6	-7.7	50.0
545.0	-4.3	-25.6	17.0
519.6	-5.0	-24.4	20.0
500.0	-7.5	-25.5	22.0
400.0	-19.9	-37.5	19.0
369.4	-24.7	-37.9	28.0
356.0	-26.9	-34.5	48.0
342.8	-29.4	-40.8	32.0
329.0	-31.6	-42.2	34.0
323.4	-32.2	-41.0	41.0
317.2	-33.5	-37.9	64.0
311.0	-34.4	-40.9	51.0
300.0	-35.8	-43.2	46.0
281.0	-39.2	-48.3	37.0
275.2	-40.5	-48.7	36.0
250.0	-46.5		
200.0	-56.8		
150.0	-65.8		
127.2	-69.7		
107.2	-69.4		
100.0	-71.7		

STATION ALTITUDE 4010.40 FEET MSL
 20 OCT. 78
 ASCENSION NO. 44

SIGNIFICANT LEVEL DATA
 2930220044
 NW 30

GEODETIC COORDINATES
 32.88497 LAT DEG
 106.49714 LON DEG

PRESSURE	GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT
97.8	54042.7	-72.6	
36.4	57204.4	-69.4	
78.2	59225.9	-70.0	
73.0	60504.9	-67.8	
70.0	61418.9	-67.5	
60.4	64302.2	-66.2	
55.8	65901.3	-62.8	
50.0	68197.3	-62.4	
44.2	70700.2	-59.4	
30.0	78805.9	-53.3	
22.0	85513.9	-50.6	
20.0	87576.1	-48.9	
18.9	88015.2	-46.3	
15.8	92754.0	-46.6	
10.0	102922.1	-41.6	

STATION ALTITUDE 4010.40 FEET MSL
20 OCT. 78 1140 HRS MST
ASCENSION NO. 44

UPPER AIR DATA
2930220044
NW 30
TABLE XIII.

GEODETIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
4010.4	883.2	22.8	30.0	1035.9	671.4	100.0	.8	1.000267
4500.0	869.1	19.2	34.7	1031.0	667.2	168.8	2.1	1.000264
5000.0	852.8	17.8	37.5	1017.4	665.7	179.4	4.0	1.000261
5500.0	837.7	16.6	40.4	1003.6	664.3	183.1	6.0	1.000258
6000.0	822.8	15.4	43.3	989.9	662.9	189.1	7.2	1.000255
6500.0	803.2	16.1	43.0	969.9	663.8	200.4	7.4	1.000252
7000.0	793.8	15.0	44.4	956.2	662.5	206.9	8.2	1.000248
7500.0	779.6	13.9	45.8	942.7	661.2	209.1	9.2	1.000244
8000.0	765.6	12.8	47.2	929.4	659.9	211.2	10.2	1.000239
8500.0	751.9	11.7	48.6	916.3	658.7	213.1	11.3	1.000235
9000.0	738.3	10.9	48.8	902.7	657.6	218.2	12.3	1.000231
9500.0	725.0	10.0	48.5	889.0	656.6	222.7	13.0	1.000226
10000.0	711.8	9.2	48.3	875.5	655.6	227.7	12.3	1.000222
10500.0	698.9	8.4	48.2	862.3	654.6	232.9	11.6	1.000217
11000.0	686.1	7.0	50.1	850.7	653.0	238.2	10.8	1.000214
11500.0	673.5	5.6	52.0	839.3	651.3	244.2	10.8	1.000210
12000.0	661.1	4.3	53.9	828.1	649.7	249.5	11.6	1.000206
12500.0	648.8	2.7	62.2	817.3	647.9	253.2	13.8	1.000205
13000.0	636.7	1.4	66.0	805.7	646.4	255.6	16.6	1.000202
13500.0	624.8	1.6	51.3	790.6	646.4	259.3	18.7	1.000194
14000.0	613.0	.6	45.7	776.0	645.4	260.9	20.1	1.000188
14500.0	601.4	.0	41.1	765.8	644.4	267.4	19.9	1.000183
15000.0	590.1	-.8	36.4	753.6	643.3	262.6	20.3	1.000179
15500.0	578.9	-1.7	31.5	742.0	642.3	247.9	21.2	1.000174
16000.0	568.0	-2.5	27.1	730.4	641.2	244.0	21.1	1.000170
16500.0	557.2	-3.3	22.4	716.9	640.2	240.4	20.4	1.000166
17000.0	546.7	-4.2	17.6	707.7	639.1	235.0	20.5	1.000162
17500.0	536.3	-4.5	18.0	695.1	638.7	228.9	21.2	1.000159
18000.0	526.0	-4.8	19.2	682.5	638.3	220.8	21.9	1.000156
18500.0	515.9	-5.5	20.4	671.1	637.6	228.5	22.5	1.000154

STATION ALTITUDE 4010.40 FEET MSL
20 OCT. 78
ASCENSION 140. 44

UPPER AIR DATA
2930220044
NW 30

GEODETIC COORDINATES
32.88497 LAT DEG
106.49714 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CELSIUS	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
19000.0	506.0	-6.7	21.4	661.2	636.1	231.0	22.4	1.000152
19500.0	490.1	-7.9	21.9	651.3	634.6	235.4	21.0	1.000149
20000.0	486.3	-9.0	21.6	641.1	633.3	237.3	20.1	1.000146
20500.0	476.7	-10.2	21.4	631.1	631.9	238.3	19.7	1.000144
21000.0	467.3	-11.3	21.1	621.3	630.6	234.7	19.0	1.000141
21500.0	458.0	-12.4	20.8	611.6	629.2	232.6	18.2	1.000139
22000.0	448.9	-13.5	20.6	602.1	627.9	232.1	17.7	1.000137
22500.0	440.0	-14.6	20.3	592.7	626.5	232.0	17.4	1.000134
23000.0	431.3	-15.7	20.0	583.5	625.2	226.0	19.1	1.000132
23500.0	422.8	-16.8	19.7	574.4	623.8	221.1	21.1	1.000130
24000.0	414.4	-17.9	19.5	565.5	622.5	219.4	25.5	1.000128
24500.0	406.2	-19.0	19.2	556.8	621.1	218.3	29.6	1.000126
25000.0	398.1	-20.2	19.5	548.1	619.7	218.1	29.6	1.000124
25500.0	390.0	-21.4	21.9	539.6	618.2	217.5	29.3	1.000122
26000.0	382.0	-22.7	24.2	531.2	616.6	213.9	26.1	1.000120
26500.0	374.2	-23.9	26.5	522.9	615.1	210.5	23.7	1.000118
27000.0	366.5	-25.2	32.3	514.7	613.6	211.2	23.7	1.000116
27500.0	358.9	-26.4	43.6	506.5	612.0	212.8	24.0	1.000115
28000.0	351.4	-27.8	42.5	498.7	610.4	216.8	24.8	1.000113
28500.0	344.0	-29.2	33.5	491.1	608.8	220.8	25.6	1.000111
29000.0	336.8	-30.4	32.9	483.2	607.0	226.4	26.3	1.000109
29500.0	329.6	-31.6	34.2	475.4	605.5	231.4	27.2	1.000107
30000.0	322.6	-32.4	43.8	466.7	604.8	235.7	28.3	1.000105
30500.0	315.7	-33.7	61.0	459.3	602.9	237.8	29.2	1.000104
31000.0	307.0	-34.7	50.1	451.2	601.7	237.2	30.0	1.000102
31500.0	302.3	-35.5	47.1	443.1	600.6	236.9	31.1	1.000100
32000.0	295.8	-36.5	44.0	435.4	599.3	237.1	32.8	1.000098
32500.0	289.3	-37.7	41.0	426.0	597.8	237.9	34.5	1.000096
33000.0	283.0	-38.8	38.0	420.7	596.4	239.7	36.5	1.000094
33500.0	276.8	-40.1	36.3	413.3	594.7	241.3	38.4	1.000093

GEODETTIC COORDINATES
 52.88497 LAT DEG
 106.49714 LON DEG

UPPER AIR DATA
 2930220044
 NW 30

STATION ALTITUDE 4010.40 FEET MSL
 20 OCT. 78 1140 HRS MST
 ASCENSION NO. 44

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
34000.0	270.7	-41.5	29.8**	407.1	592.9	243.2	39.7	1.000091
34500.0	264.6	-42.9	21.3**	400.4	591.1	245.0	41.0	1.000089
35000.0	253.7	-44.4	12.9**	393.9	589.3	245.8	43.4	1.000088
35500.0	253.0	-45.8	4.4**	387.5	587.5	246.6	45.8	1.000086
36000.0	247.2	-47.0		380.8	585.8	244.2	48.1	1.000085
36500.0	241.5	-48.1		373.8	584.4	241.7	50.4	1.000083
37000.0	235.9	-49.2		366.9	583.0	239.6	51.9	1.000082
37500.0	230.5	-50.3		360.2	581.6	237.6	53.3	1.000080
38000.0	225.1	-51.3		353.6	580.2	236.1	54.8	1.000079
38500.0	219.9	-52.4		347.1	578.8	234.9	56.3	1.000077
39000.0	214.6	-53.5		340.7	577.4	233.5	58.3	1.000076
39500.0	209.9	-54.6		334.5	576.0	232.2	60.5	1.000075
40000.0	205.0	-55.7		328.4	574.5	230.5	62.1	1.000073
40500.0	200.3	-56.7		322.4	573.1	230.1	65.3	1.000072
41000.0	195.5	-57.5		315.3	572.1	237.7	69.4	1.000070
41500.0	190.7	-58.3		309.2	571.1	261.7	72.7	1.000069
42000.0	186.1	-59.0		302.8	570.0	260.3	73.4	1.000067
42500.0	181.6	-59.8		296.8	569.0	253.5	72.1	1.000066
43000.0	177.2	-60.6		290.5	568.0	249.9	72.3	1.000065
43500.0	173.0	-61.3		284.5	567.0	249.0	73.0	1.000063
44000.0	168.8	-62.1		278.6	566.0	249.3	72.3	1.000062
44500.0	164.7	-62.9		272.9	564.9	250.2	70.9	1.000061
45000.0	160.7	-63.6		267.3	563.9	251.5	68.7	1.000060
45500.0	156.8	-64.4		261.8	562.9	253.7	65.5	1.000058
46000.0	153.1	-65.2		256.4	561.8	253.7	62.6	1.000057
46500.0	149.3	-65.9		251.0	560.8	256.4	60.7	1.000056
47000.0	145.6	-66.5		245.3	560.0	257.2	58.9	1.000055
47500.0	142.0	-67.1		240.1	559.2	259.2	54.4	1.000053
48000.0	138.5	-67.7		234.8	558.4	261.8	49.7	1.000052
48500.0	135.0	-68.3		229.6	557.6	264.7	45.1	1.000051

24

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4010.40 FEET MSL
20 OCT. 78
ASCENSION NO. 44

UPPER AIR DATA
2930220044
NW 30

GEODETIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

GEOMTRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
49000.0	131.7	-68.9		224.5	556.8	268.1	40.8	1.000050
49500.0	128.4	-69.5		219.6	556.0	270.4	37.7	1.000049
50000.0	125.2	-69.7		214.3	555.7	270.5	35.9	1.000048
50500.0	122.0	-69.6		208.9	555.8	269.4	34.4	1.000047
51000.0	119.0	-69.6		203.6	555.8	264.6	34.1	1.000045
51500.0	116.0	-69.5		198.4	555.9	259.8	34.0	1.000044
52000.0	113.1	-69.5		193.4	556.0	249.9	36.1	1.000043
52500.0	110.2	-69.4		188.5	556.0	241.3	39.1	1.000042
53000.0	107.5	-69.4		183.7	556.1	234.5	40.7	1.000041
53500.0	104.8	-70.2		179.8	555.0	228.5	42.1	1.000040
54000.0	102.1	-71.0		176.0	553.9	225.3	43.2	1.000039
54500.0	99.5	-71.9		172.3	552.7	228.9	42.9	1.000038
55000.0	97.0	-72.4		168.3	552.0	232.5	42.7	1.000037
55500.0	94.6	-71.7		163.6	552.9	239.5	38.5	1.000036
56000.0	92.2	-71.1		158.9	553.8	249.1	34.3	1.000035
56500.0	89.8	-70.4		154.4	554.7	255.6	28.5	1.000034
57000.0	87.6	-69.7		150.0	555.6	257.9	20.0	1.000033
57500.0	85.4	-69.5		146.0	556.0	261.3	12.3	1.000033
58000.0	83.2	-69.6		142.5	555.8	251.3	9.6	1.000032
58500.0	81.1	-69.8		139.0	555.6	255.0	7.7	1.000031
59000.0	79.1	-69.9		135.6	555.4	250.4	8.9	1.000030
59500.0	77.1	-69.6		132.0	555.9	265.1	11.6	1.000029
60000.0	75.2	-68.7		128.2	557.0	273.6	13.6	1.000029
60500.0	73.3	-67.9		124.5	558.1	279.8	14.8	1.000028
61000.0	71.5	-67.7		121.2	558.5	284.4	15.3	1.000027
61500.0	69.7	-67.5		118.1	558.7	287.5	13.6	1.000026
62000.0	68.0	-67.2		115.0	559.0	291.4	11.9	1.000026
62500.0	66.3	-67.0		112.1	559.3	292.1	10.3	1.000025
63000.0	64.7	-66.8		109.2	559.6	292.6	8.6	1.000024
63500.0	63.1	-66.6		106.4	559.9	283.6	7.2	1.000024

STATION ALTITUDE 4010.40 FEET MSL
20 OCT. 78 1140 HRS MST
ASCENSION NO. 44

UPPER AIR DATA
2930220044
NW 30

GEODETIC COORDINATES
32.84497 LAT DEG
106.49714 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES CENTIGRADE	DEWPOINT DEGREES CENTIGRADE				DIRECTION DEGREES (TN)	SPEED KNOTS	
6400.0	61.5	-66.4			103.6	560.2	262.7	6.7	1.000023
6450.0	60.0	-65.9			100.8	560.8	243.2	7.1	1.000022
6500.0	58.5	-64.8			97.9	562.3	240.6	7.7	1.000022
6550.0	57.1	-63.8			95.0	563.7	238.4	8.4	1.000021
6600.0	55.7	-62.8			92.2	565.0	244.0	8.3	1.000021
6650.0	54.3	-62.7			90.0	565.2	254.7	8.2	1.000020
6700.0	53.0	-62.6			87.7	565.3	263.1	8.1	1.000020
6750.0	51.7	-62.5			85.6	565.4	268.9	7.7	1.000019
6800.0	50.5	-62.4			83.5	565.5	275.1	7.5	1.000019
6850.0	49.3	-62.0			81.3	566.0	273.2	9.0	1.000018
6900.0	48.1	-61.4			79.1	563.8	271.6	10.5	1.000018
6950.0	46.9	-60.9			77.0	567.6	272.6	11.2	1.000017
7000.0	45.8	-60.3			74.9	568.4	274.4	11.4	1.000017
7050.0	44.7	-59.7			72.9	569.2	276.1	11.5	1.000016
7100.0	43.6	-59.2			71.0	569.6	277.5	11.1	1.000016
7150.0	42.6	-58.8			69.3	570.3	279.0	10.8	1.000015
7200.0	41.6	-58.4			67.5	570.8	283.9	11.1	1.000015
7250.0	40.6	-58.1			65.6	571.3	289.5	11.7	1.000015
7300.0	39.7	-57.7			64.1	571.8	292.6	12.0	1.000014
7350.0	38.7	-57.3			62.5	572.3	288.9	11.1	1.000014
7400.0	37.6	-56.9			60.9	572.8	284.6	10.2	1.000014
7450.0	36.9	-56.6			59.4	573.3			1.000013
7500.0	36.1	-56.2			57.9	573.8			1.000013
7550.0	35.2	-55.8			56.5	574.3			1.000013
7600.0	34.4	-55.4			55.0	574.8			1.000012
7650.0	33.6	-55.1			53.6	575.3			1.000012
7700.0	32.8	-54.7			52.3	575.8			1.000012
7750.0	32.0	-54.3			51.0	576.3			1.000011
7800.0	31.3	-53.9			49.7	576.8			1.000011
7850.0	30.5	-53.6			48.4	577.3			1.000011

GEODETIC COORDINATES
32.88497 LAT DEG
106.49714 LONG DEG

UPPER AIR DATA
2930220044
NW 30

STATION ALTITUDE 4010.40 FEET MSL
20 OCT. 78 1140 HRS MST
ASCENSION NO. 44

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES (TN)	SPEED KNOTS	
79000.0	29.8	-53.2		47.2	577.7			1.000011
79500.0	29.1	-53.0		46.1	578.0			1.000010
80000.0	28.5	-52.8		45.0	578.2			1.000010
80500.0	27.8	-52.6		43.9	578.5			1.000010
81000.0	27.2	-52.4		42.9	578.8			1.000010
81500.0	26.5	-52.2		41.8	579.0			1.000009
82000.0	25.9	-52.0		40.8	579.3			1.000009
82500.0	25.3	-51.8		39.9	579.6			1.000009
83000.0	24.7	-51.6		36.9	579.8			1.000009
83500.0	24.2	-51.4		38.0	580.1			1.000008
84000.0	23.6	-51.2		37.1	580.4			1.000008
84500.0	23.1	-51.0		36.2	580.6			1.000008
85000.0	22.5	-50.8		35.3	580.9			1.000008
85500.0	22.0	-50.6		34.5	581.2			1.000008
86000.0	21.5	-50.2		33.6	581.7			1.000007
86500.0	21.0	-49.8		32.8	582.2			1.000007
87000.0	20.5	-49.4		32.0	582.8			1.000007
87500.0	20.1	-49.0		31.2	583.3			1.000007
88000.0	19.6	-48.0		30.4	584.5			1.000007
88500.0	19.2	-47.0		29.5	585.9			1.000007
89000.0	18.7	-46.3		28.8	586.7			1.000006
89500.0	18.3	-46.4		28.1	586.7			1.000006
90000.0	17.9	-46.4		27.5	586.6			1.000006
90500.0	17.5	-46.4		26.9	586.6			1.000006
91000.0	17.1	-46.5		26.3	586.6			1.000006
91500.0	16.7	-46.5		25.7	586.5			1.000006
92000.0	16.4	-46.5		25.1	586.5			1.000006
92500.0	16.0	-46.6		24.6	586.4			1.000005
93000.0	15.6	-46.5		24.0	586.5			1.000005
93500.0	15.3	-46.2		23.5	586.9			1.000005

STATION ALTITUDE 4010.40 FEET MSL
20 OCT. 78 1140 HRS MST
ASCENSION NO. 44

UPPER AIR DATA
2930220044
14W 30

GEODETIC COORDINATES
32.88497 LAT DEG
106.49714 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (TN) DEGREES	SPEED KNOTS	INDEX OF REFRACTION
94000.0	14.9	-46.0		22.9	587.2			1.000005
94500.0	14.6	-45.7		22.4	587.5			1.000005
95000.0	14.3	-45.5		21.9	587.8			1.000005
95500.0	14.0	-45.2		21.3	588.1			1.000005
96000.0	13.7	-45.0		20.8	588.4			1.000005
96500.0	13.3	-44.8		20.4	588.8			1.000005
97000.0	13.1	-44.5		19.9	589.1			1.000004
97500.0	12.8	-44.3		19.4	589.4			1.000004
98000.0	12.5	-44.0		19.0	589.7			1.000004
98500.0	12.2	-43.8		18.5	590.0			1.000004
99000.0	11.9	-43.5		18.1	590.3			1.000004
99500.0	11.7	-43.3		17.7	590.7			1.000004
100000.0	11.4	-43.0		17.3	591.0			1.000004
100500.0	11.2	-42.8		16.9	591.3			1.000004
101000.0	10.9	-42.5		16.5	591.6			1.000004
101500.0	10.7	-42.3		16.1	591.9			1.000004
102000.0	10.4	-42.1		15.7	592.2			1.000003
102500.0	10.2	-41.8		15.3	592.5			1.000003

STATION ALTITUDE 4010.40 FEET MSL
20 OCT. 78 1140 HRS MST
ASCENSION NO. 44

MRN SIGNIFICANT LEVEL DATA
2930220044
NW 30

GEODETIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

TABLE XIV.

GEOPOTENTIAL ALTITUDE DECAMETERS	DIRECTION DEG (TIL)	SPEED MPS	WIND DATA		E-W MPS	DLW PT DLP LEG C	TEMPERATURE		PRESSURE MILLIBARS
			N-S MPS	N-S MPS			AIR DEG C		
3120.	9999.**	9999.**	-9999.**	-9999.**	-9999.**	99	-41.6		1.000+1
2813.	9999.**	9999.**	-9999.**	-9999.**	-9999.**	99	-46.6		1.580+1
2694.	9999.**	9999.**	-9999.**	-9999.**	-9999.**	99	-46.3		1.890+1
2657.	9999.**	9999.**	-9999.**	-9999.**	-9999.**	99	-48.9		2.000+1
2595.	9999.**	9999.**	-9999.**	-9999.**	-9999.**	99	-50.6		2.200+1
2394.	9999.**	9999.**	-9999.**	-9999.**	-9999.**	99	-53.3		3.000+1
2146.	277.	6.	-1.	0.	0.	99	-59.4		4.420+1
2071.	274.	4.	-0.	4.	4.	99	-62.4		5.000+1
2003.	244.	4.	2.	4.	4.	99	-62.8		5.580+1
1955.	247.	4.	1.	0.	0.	99	-66.2		6.040+1
1866.	287.	7.	-2.	7.	7.	99	-67.5		7.000+1
1840.	281.	6.	-1.	0.	0.	99	-67.8		7.300+1
1799.	258.	5.	1.	5.	5.	99	-70.0		7.820+1
1740.	260.	6.	1.	6.	6.	99	-69.4		8.640+1
1666.	231.	22.	14.	17.	17.	99	-72.6		9.780+1
1653.	228.	22.	15.	16.	16.	99	-71.7		1.000+2

** WIND DATA NOT COMPUTED DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

STATION ALTITUDE 4010.40 FEET MSL
20 OCT. 76
ASCENSION NO. 44

MANDATORY LEVELS
2930220044
NW 30
TABLE XV.

GEODETIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
HALLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5089.	17.6	3.1	38.	130.3	4.4
800.0	6760.	15.5	3.2	44.	205.7	7.7
750.0	8564.	11.6	1.2	49.	213.8	11.4
700.0	10447.	8.5	-1.9	48.	232.5	11.7
650.0	12439.	2.8	-3.9	61.	252.9	13.5
600.0	14554.	-1.1	-11.9	40.	256.9	19.9
550.0	16824.	-3.9	-23.9	19.	237.1	20.3
500.0	19279.	-7.5	-25.5	22.	233.5	21.5
450.0	21941.	-13.4	-31.2	21.	232.1	17.8
400.0	24845.	-19.9	-37.5	19.	216.2	29.6
350.0	28044.	-23.0	-37.2	41.	217.1	25.0
300.0	31613.	-35.6	-43.2	40.	237.0	31.7
250.0	35682.	-46.5			245.6	46.9
200.0	40432.	-50.8			250.3	65.4
175.0	43182.	-61.0			249.4	72.6
150.0	46289.	-65.8			256.3	61.1
125.0	49885.	-69.7			270.5	35.9
100.0	54244.	-71.7			226.0	42.9
80.0	56587.	-69.9			239.7	7.9
70.0	61210.	-67.5			266.8	13.9
60.0	64267.	-65.9			243.4	7.0
50.0	67944.	-62.4			274.4	8.0
40.0	72517.	-57.8			292.3	12.1
30.0	76535.	-53.3				
25.0	82539.	-51.7				
20.0	87172.	-48.9				
15.0	93434.	-46.0				
10.0	102369.	-41.6				

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4010.40 FEET MSL
 20 OCT. 78 1140 HRS MST
 ASCENSION NO. 44

NRN MANDATORY LEVELS
 2930220044
 NW 30

TABLE XVI.

GEODETIC COORDINATES
 32.80497 LAT DEG
 106.49714 LON DEG

GEOPOTENTIAL ALTITUDE DECAMETERS	DIRECTION DEG (TN)	SPEED MPS	WIND DATA		E-W MPS	DEW PT DLP DEG C	TEMPERATURE		PRESSURE MILLIBARS
			N-S MPS				AIR DEG C		
3120.	9999.**	9999.**	-9999.**		-9999.**	99	-41.6		1.000+1
2848.	9999.**	9999.**	-9999.**		-9999.**	99	-46.0		1.500+1
2657.	9999.**	9999.**	-9999.**		-9999.**	99	-48.9		2.000+1
2512.	9999.**	9999.**	-9999.**		-9999.**	99	-51.7		2.500+1
2394.	9999.**	9999.**	-9999.**		-9999.**	99	-53.3		3.000+1
2210.	292.	0.	-2.		0.	99	-57.8		4.000+1
207.	274.	4.	-0.		4.	99	-62.4		5.000+1
1959.	243.	4.	2.		0.	99	-65.9		6.000+1
1860.	287.	7.	-2.		7.	99	-67.5		7.000+1
1766.	240.	4.	2.		4.	99	-69.9		8.000+1
1653.	220.	24.	15.		10.	99	-71.7		1.000+2
1520.	271.	10.	-0.		10.	99	-69.7		1.250+2
1411.	256.	31.	7.		31.	99	-65.8		1.500+2
1310.	249.	37.	13.		35.	99	-61.0		1.750+2
1232.	250.	34.	11.		32.	99	-56.8		2.000+2
1088.	246.	24.	10.		22.	99	-46.5		2.500+2
904.	237.	10.	9.		14.	07	-35.8		3.000+2
855.	217.	10.	10.		8.	09	-28.0		3.500+2
757.	218.	15.	12.		9.	10	-19.9		4.000+2
609.	232.	9.	6.		7.	10	-13.4		4.500+2
588.	234.	11.	7.		9.	18	-7.5		5.000+2
513.	237.	10.	6.		9.	20	-3.9		5.500+2
444.	257.	10.	2.		10.	12	-1		6.000+2
379.	253.	7.	2.		7.	07	2.8		6.500+2
318.	232.	6.	4.		5.	10	8.5		7.000+2
261.	214.	6.	5.		0.	10	11.6		7.500+2
207.	206.	4.	4.		2.	12	15.5		8.000+2
155.	180.	2.	2.		0.	14	17.6		8.500+2

** WIND DATA NOT COMPUTED DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

STATION ALTITUDE 3951.40 FEET MSL
20 OCT. 78 1130 HRS MST
ASCENSION NO. 122

SIGNIFICANT LEVEL DATA

2930050122
APACHE
TABLE XVII.

GEODETIC COORDINATES
32.62760 LAT DEG
106.39352 LONG DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE		REL. HUM. PERCENT
886.6	3951.4	22.5	5.4	33.0
874.0	4358.4	20.4	2.3	30.0
850.0	5142.7	17.2	1.6	35.0
821.6	6091.1	15.0	.4	37.0
789.6	7193.8	14.0	.6	40.0
768.0	12499.7	8.5	-2.1	47.0
686.3	11135.5	7.0	-3.5	47.0
639.7	12922.7	2.9	-4.5	58.0
612.7	14069.4	2.0	-6.7	45.0
573.0	15834.7	-2.0	-9.6	56.0
556.2	16610.1	-4.0	-14.1	45.0
547.6	17014.2	-4.2	-29.3	12.0
539.2	17414.9	-4.0	-28.3	13.0
500.0	10363.2	-6.5	-23.1	16.0
443.6	22394.4	-14.2	-36.5	13.0
440.0	22597.5	-14.9	-35.7	15.0
420.0	24546.4	-20.0	-39.2	16.0
361.7	27375.6	-25.6	-40.5	23.0
351.6	28148.6	-27.8	-33.7	57.0
345.0	20496.0	-28.9	-36.9	37.0
331.6	29424.8	-31.1	-47.5	18.0
319.0	30325.3	-33.1	-39.4	53.0
312.8	30770.8	-34.0	-43.6	37.0
280.0	31739.7	-35.4	-45.9	33.0
268.4	32639.8	-37.6	-48.1	32.0
250.0	30634.2	-45.2		
206.8	39914.6	-55.3		
203.0	40615.8	-56.4		
150.8	42519.4	-64.8		
136.4	42415.4	-68.4		

STATION ALTITUDE 3951.40 FEET MSL.
20 OCT. 78 1130 HRS MST
ASCENSION NO. 122

SIGNIFICANT LEVEL DATA
2930050122
APACHE

GEOMETRIC COORDINATES
32.62700 LAT DEG
106.39352 LON DEG

PRESSURE	GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
106.8	53253.6	-68.5		
100.0	54543.6	-72.0		
70.0	61554.2	-57.7		
50.0	68323.4	-62.7		
35.4	75479.0	-55.5		
30.0	78984.3	-53.5		
23.2	84477.7	-51.7		
20.0	87682.7	-49.1		
17.2	90977.8	-46.6		
14.5	94737.1	-45.8		

GEOMETRIC COORDINATES
32.62700 LAT DEG
166.39352 LON DEG

UPPER AIR DATA
29JUN5012Z
APACHE
TABLE XVIII.

STATION ALTITUDE 3951.40 FEET MSL
26 OCT. 78
1130 HRS MST
ASCENSION NO. 122

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
3951.4	886.6	22.5	33.5	1040.7	671.1	151.0	5.8	1.000271
4000.0	885.1	22.2	32.0	1039.9	670.0	149.5	5.4	1.000270
4500.0	869.6	19.8	30.9	1030.8	667.9	105.0	.7	1.000261
5000.0	854.3	17.8	34.1	1019.8	665.5	342.6	4.4	1.000258
5500.0	839.2	16.4	35.8	1006.7	663.9	338.9	9.3	1.000254
6000.0	824.3	15.2	36.8	992.9	662.5	334.7	9.7	1.000250
6500.0	809.6	14.6	38.1	977.1	661.9	312.0	4.6	1.000247
7000.0	795.1	14.2	39.5	961.1	661.4	237.6	5.2	1.000243
7500.0	781.8	13.5	40.0	946.1	660.6	216.6	11.0	1.000240
8000.0	766.7	12.7	41.7	931.8	659.6	217.0	13.9	1.000236
8500.0	752.9	11.8	42.0	917.6	658.6	221.0	15.3	1.000232
9000.0	739.3	11.0	43.8	903.7	657.7	221.7	14.9	1.000228
9500.0	726.0	10.2	44.9	890.1	656.7	218.7	13.9	1.000225
10000.0	712.9	9.3	45.9	876.6	655.7	224.2	13.1	1.000221
10500.0	700.0	8.5	47.0	863.4	654.7	202.3	12.7	1.000217
11000.0	687.2	7.1	47.5	852.1	653.0	241.3	12.1	1.000213
11500.0	674.5	6.5	49.7	839.6	651.7	253.2	11.9	1.000211
12000.0	662.1	4.9	52.0	827.3	650.5	257.0	13.3	1.000207
12500.0	649.9	3.8	55.5	815.3	649.2	259.3	14.9	1.000204
13000.0	637.8	2.8	57.1	803.1	648.0	262.3	17.1	1.000200
13500.0	626.0	2.4	51.5	789.4	647.5	264.7	19.3	1.000195
14000.0	614.3	2.1	45.0	776.1	646.9	265.5	21.2	1.000189
14500.0	602.8	1.0	47.7	764.4	645.7	265.6	23.0	1.000186
15000.0	591.4	-.1	50.6	753.1	644.4	261.0	23.8	1.000183
15500.0	580.3	-1.2	53.9	742.1	643.0	256.6	24.2	1.000181
16000.0	569.4	-2.4	53.7	731.3	641.6	251.7	23.4	1.000177
16500.0	558.6	-3.7	46.6	721.1	639.9	246.7	21.7	1.000172
17000.0	547.9	-4.2	13.2	709.4	638.0	241.8	19.4	1.000161
17500.0	537.4	-4.1	13.1	695.6	635.1	235.8	18.8	1.000158
18000.0	527.1	-4.8	13.9	683.9	630.4	232.4	19.5	1.000155

STATION ALTITUDE 3951.40 FEET MSL
25 OCT. 78 1130 HRS MST
ASCENSION NO. 122

UPPER AIR DATA
2930050122
APACHE

GEODETIC COORDINATES
32.62700 LAT DFG
106.39352 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES C	TEMPERATURE DEWPOINT C	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
							DIRECTION DEGREES(TN)	SPEED KNOTS	
18500.0	517.0	-5.4	-25.1	14.7	672.4	637.6	231.6	20.9	1.000153
19000.0	507.1	-6.5	-28.1	15.4	661.0	636.9	232.5	22.0	1.000153
19500.0	497.3	-6.8	-26.5	15.9	650.3	635.9	233.5	24.1	1.000148
20000.0	487.6	-8.1	-29.8	15.4	640.6	634.4	234.6	24.7	1.000145
20500.0	478.1	-9.4	-31.2	14.9	631.2	632.8	235.4	25.0	1.000143
21000.0	468.7	-10.7	-32.6	14.4	621.9	631.3	235.9	24.9	1.000141
21500.0	459.5	-11.9	-34.0	13.9	612.7	629.7	235.7	23.8	1.000138
22000.0	450.6	-13.2	-35.4	12.4	603.7	628.2	234.6	21.5	1.000136
22500.0	441.7	-14.6	-36.0	14.0	594.9	626.5	232.0	20.0	1.000134
23000.0	432.9	-15.8	-36.3	15.2	585.8	625.1	227.6	19.9	1.000132
23500.0	424.2	-16.9	-37.0	15.4	576.4	623.7	224.6	21.7	1.000131
24000.0	415.7	-17.9	-37.6	15.6	567.3	622.4	223.3	22.3	1.000128
24500.0	407.3	-19.0	-38.6	15.8	558.3	621.1	221.5	23.0	1.000126
25000.0	399.1	-20.1	-39.3	16.2	549.4	619.8	219.3	23.1	1.000124
25500.0	390.9	-21.3	-39.4	17.0	540.6	618.3	217.0	23.5	1.000122
26000.0	382.9	-22.4	-39.6	19.0	531.9	616.9	214.7	24.0	1.000121
26500.0	375.1	-23.6	-39.9	20.5	523.4	615.5	213.6	24.3	1.000118
27000.0	367.4	-24.7	-40.2	21.9	515.1	614.1	212.9	24.5	1.000116
27500.0	359.8	-26.0	-38.6	29.3	507.1	612.5	211.5	24.7	1.000114
28000.0	352.3	-27.6	-32.9	54.5	499.7	610.5	209.9	24.9	1.000113
28500.0	344.9	-28.9	-39.0	36.9	491.9	608.9	213.7	25.7	1.000111
29000.0	337.7	-29.1	-33.1	10.7	483.9	607.4	217.7	26.1	1.000109
29500.0	330.5	-31.3	-40.3	20.7	476.0	605.9	224.4	27.5	1.000107
30000.0	323.5	-32.4	-41.3	45.4	468.1	604.6	231.7	28.3	1.000105
30500.0	316.6	-33.4	-40.9	46.8	460.7	603.2	236.5	28.7	1.000104
31000.0	309.8	-34.3	-44.1	36.1	451.8	602.1	240.1	29.7	1.000101
31500.0	303.1	-35.1	-45.3	24.0	443.5	601.2	241.6	31.3	1.000099
32000.0	296.6	-35.9	-45.5	32.7	435.7	599.9	241.2	32.9	1.000098
32500.0	290.2	-37.3	-47.8	32.2	428.5	598.4	239.1	34.5	1.000096
33000.0	283.8	-38.5	-49.9	28.4	421.7	596.8	240.3	36.3	1.000094

STATION ALTITUDE 3957.40 FEET MSL
 2 OCT. 78
 ASCENSION NO. 172

UPPER AIR DATA
 29305012Z
 APACHE

GEODETIC COORDINATES
 32.62700 LAT DFG
 106.39352 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		WFL-HUMID. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	FT/SEC	DIRECTION DEGREES(TN)	SPFD KNOTS	
33500.0	277.5	-39.6	-52.6	3.400	414.0	595.3		242.9	39.2	1.000093
34000.0	271.4	-40.8	-55.0	18.400	406.9	593.8		245.2	40.2	1.000091
34500.0	265.4	-42.0	-59.1	13.400	400.0	592.3		247.3	42.3	1.000089
35000.0	259.5	-43.2	-63.6	8.400	393.2	590.7		247.5	44.1	1.000088
35500.0	253.0	-44.4	-71.0	3.300	386.5	589.2		246.8	45.6	1.000086
36000.0	248.1	-45.6			379.8	587.7		244.2	46.9	1.000085
36500.0	242.4	-46.8			373.1	586.1		240.5	48.2	1.000083
37000.0	236.8	-48.1			366.5	584.5		237.7	50.0	1.000082
37500.0	231.4	-49.3			360.1	582.8		235.8	52.1	1.000081
38000.0	226.1	-50.6			353.8	581.2		236.1	54.5	1.000079
38500.0	220.9	-51.8			347.6	579.6		238.9	57.3	1.000077
39000.0	215.8	-53.0			341.5	578.0		241.8	60.0	1.000076
39500.0	210.8	-54.3			335.5	576.4		245.4	62.5	1.000075
40000.0	206.0	-55.4			329.6	574.8		248.8	65.2	1.000073
40500.0	201.1	-56.7			323.0	573.8		251.2	68.4	1.000072
41000.0	196.3	-56.9			316.3	572.8		253.3	71.8	1.000071
41500.0	191.6	-57.7			309.7	571.9		254.3	74.4	1.000069
42000.0	187.0	-58.4			303.2	570.9		255.0	76.8	1.000068
42500.0	182.5	-59.1			296.9	570.0		251.6	77.9	1.000066
43000.0	178.1	-59.8			290.7	569.0		252.0	79.0	1.000065
43500.0	173.8	-60.5			284.7	568.1		251.9	78.1	1.000063
44000.0	169.6	-61.2			278.8	567.1		251.9	77.3	1.000062
44500.0	165.5	-61.9			273.0	566.2		250.2	76.3	1.000061
45000.0	161.5	-62.6			267.3	565.2		254.8	75.4	1.000060
45500.0	157.6	-63.3			261.8	564.3		256.2	74.7	1.000059
46000.0	153.8	-64.1			256.3	563.3		257.5	74.1	1.000057
46500.0	150.1	-64.8			251.0	562.4		259.0	72.9	1.000056
47000.0	146.4	-65.7			245.9	561.1		261.2	67.4	1.000055
47500.0	142.8	-66.7			240.9	559.8		263.9	62.0	1.000054
48000.0	139.3	-67.6			236.0	558.5		265.3	57.6	1.000053

UPPER AIR DATA
293000Z12Z
APACHE

STATION ALTITUDE 3951.40 FEET MSL
20 OCT. 78
1130 HRS MST
ASCENSION NO. 122

GEODETIC COORDINATES
32.62700 LAT DFG
166.39352 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA DIRECTION DEGREES (TN)	SPED KNOTS	INDEX OF REFRACTION
		AIR DEG	DEWPOINT CENTIGRADE			KNOTS	FT/SEC			
48500.0	135.8	-68.4			231.1	557.5		266.8	53.5	1.00051
49000.0	132.4	-68.4			225.3	557.4		267.2	51.5	1.00051
49500.0	129.1	-68.4			219.7	557.4		267.0	50.7	1.00049
50000.0	125.9	-68.4			214.2	557.4		265.6	49.6	1.00048
50500.0	122.8	-68.4			208.9	557.4		265.9	47.8	1.00047
51000.0	119.7	-63.5			203.7	557.4		265.2	45.9	1.00045
51500.0	116.7	-68.5			198.6	557.4		262.4	43.6	1.00044
52000.0	113.8	-68.5			193.7	557.4		258.9	41.3	1.00043
52500.0	110.9	-68.5			188.8	557.3		253.9	39.6	1.00042
53000.0	108.2	-68.5			184.1	557.3		247.3	38.8	1.00041
53500.0	105.5	-69.2			180.1	556.4		243.5	38.6	1.00041
54000.0	102.8	-70.5			176.8	554.6		235.1	39.1	1.00039
54500.0	100.2	-71.9			173.5	552.7		229.8	39.9	1.00039
55000.0	97.7	-71.7			169.8	552.9		23.3	39.9	1.00038
55500.0	95.3	-71.4			164.5	553.3		233.6	39.5	1.00037
56000.0	92.9	-71.1			160.1	553.8		237.6	39.1	1.00036
56500.0	90.5	-70.8			155.8	554.2		243.9	38.9	1.00035
57000.0	88.3	-70.5			151.7	554.6		250.2	39.1	1.00034
57500.0	86.0	-70.2			147.7	555.0		252.2	34.4	1.00033
58000.0	83.9	-69.9			143.7	555.4		253.8	28.7	1.00032
58500.0	81.8	-69.6			139.4	555.9		255.7	22.8	1.00031
59000.0	79.7	-69.3			136.2	556.3		257.5	16.9	1.00031
59500.0	77.7	-69.0			132.6	556.7		261.4	11.0	1.00030
60000.0	75.8	-68.7			129.1	557.1		267.8	11.0	1.00029
60500.0	73.9	-68.3			125.6	557.5		273.7	11.6	1.00028
61000.0	72.0	-68.0			122.3	557.9		279.5	12.1	1.00027
61500.0	70.2	-67.7			119.0	558.4		285.3	12.5	1.00027
62000.0	68.5	-67.4			115.9	558.9		291.7	13.1	1.00026
62500.0	66.8	-67.0			112.9	559.4		291.1	12.4	1.00025
63000.0	65.1	-66.6			109.9	559.9		291.3	11.5	1.00024

UPPER AIR DATA
293050120
APACHE

STATION ALTITUDE 3957.40 FEET MSL
20 OCT. 78
ASCENSION NO. 122

GEOMETRIC COORDINATES
32.62700 LAT DEG
106.39352 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	WIND DATA		INDEX OF REFRACTION
					DIRECTION DEGREES (TN)	SPEED KNOTS	
63500.0	63.5	-66.3		107.0	288.7	10.5	1.000024
64000.0	62.0	-65.9		104.2	288.2	9.5	1.000023
64500.0	60.5	-65.5		101.5	269.8	8.6	1.000023
65000.0	59.0	-65.2		98.3	266.7	8.9	1.000022
65500.0	57.5	-64.8		96.2	265.8	9.3	1.000021
66000.0	56.1	-64.4		93.7	267.6	9.4	1.000021
66500.0	54.7	-64.0		91.7	267.4	8.3	1.000021
67000.0	53.4	-63.7		88.8	295.8	7.8	1.000020
67500.0	52.1	-63.3		86.5	301.7	7.5	1.000019
68000.0	50.8	-62.9		84.2	302.1	7.1	1.000019
68500.0	49.6	-62.5		82.0	312.4	6.7	1.000018
69000.0	48.4	-62.0		79.8	294.3	6.9	1.000018
69500.0	47.2	-61.5		77.8	287.7	7.3	1.000017
70000.0	46.1	-61.0		75.7	283.6	7.8	1.000017
70500.0	45.0	-60.5		73.7	276.4	8.1	1.000016
71000.0	43.9	-60.0		71.8	276.4	8.4	1.000016
71500.0	42.9	-59.5		69.4	273.8	8.8	1.000016
72000.0	41.9	-59.0		68.1	273.4	9.6	1.000015
72500.0	40.9	-58.5		66.3	267.4	10.4	1.000015
73000.0	39.9	-58.0		64.6	266.3	10.6	1.000014
73500.0	38.9	-57.5		62.9	266.5	10.1	1.000014
74000.0	38.0	-57.0		61.3	266.7	9.6	1.000014
74500.0	37.1	-56.5		59.7	276.3	9.7	1.000013
75000.0	36.2	-56.0		58.1	288.8	10.6	1.000013
75500.0	35.4	-55.5		56.6	299.0	11.8	1.000013
76000.0	34.5	-55.2		55.2	303.9	12.8	1.000012
76500.0	33.7	-54.9		53.8	307.4	13.6	1.000012
77000.0	32.9	-54.6		52.5	311.4	14.5	1.000012
77500.0	32.2	-54.3		51.2	309.3	13.9	1.000011
78000.0	31.4	-54.1		50.0	307.1	12.9	1.000011

GEODETIC COORDINATES
32.62700 LAT DEG
166.39352 LON DEG

UPPER AIR DATA
293050122
APACHE

STATION ALTITUDE 3957.40 FEET MSL
20 OCT. 78 1130 HRS MST
ASCENSION NO. 122

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES TEMPPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN) SPEED KNOTS	INDEX OF REFRACTION
76500.0	35.7	-53.8		48.7	577.0	304.5	1.000011
79000.0	30.0	-53.5		47.5	577.4	301.1	1.000011
79500.0	29.3	-53.3		46.4	577.6	296.5	1.000010
80000.0	28.6	-53.2		45.3	577.8	293.2	1.000010
80500.0	27.9	-53.0		44.2	576.0	281.2	1.000010
81000.0	27.3	-52.8		43.2	578.2	266.6	1.000010
81500.0	26.7	-52.7		42.1	578.5	249.8	1.000009
82000.0	26.1	-52.5		41.1	578.7	257.1	1.000009
82500.0	25.4	-52.3		40.0	576.9	255.2	1.000009
83000.0	24.9	-52.2		39.2	579.1	257.3	1.000009
83500.0	24.3	-52.0		38.3	579.3	261.6	1.000009
84000.0	23.7	-51.9		37.3	579.5	265.4	1.000008
84500.0	23.2	-51.7		36.5	579.8	268.7	1.000008
85000.0	22.6	-51.3		35.6	580.3	271.8	1.000008
85500.0	22.1	-50.9		34.7	580.8	272.2	1.000008
86000.0	21.6	-50.5		33.8	581.4	273.7	1.000008
86500.0	21.1	-50.1		33.0	581.9	275.3	1.000007
87000.0	20.6	-49.7		32.2	582.4	273.0	1.000007
87500.0	20.2	-49.3		31.4	582.9	273.6	1.000007
88000.0	19.7	-48.9		30.6	583.4	268.2	1.000007
88500.0	19.3	-48.5		29.9	583.9	266.6	1.000007
89000.0	18.8	-48.1		29.1	584.4	265.6	1.000006
89500.0	18.4	-47.7		28.4	584.9	264.4	1.000006
90000.0	18.0	-47.3		27.7	585.4	262.8	1.000006
90500.0	17.6	-47.0		27.1	585.9	262.5	1.000006
91000.0	17.2	-46.6		26.4	586.4	262.2	1.000006
91500.0	16.8	-46.5		25.8	586.5	261.9	1.000006
92000.0	16.4	-46.4		25.2	586.7		1.000006
92500.0	16.1	-46.3		24.6	586.8		1.000005
93000.0	15.7	-46.2		24.1	586.9		1.000005

STATION ALTITUDE 3057.40 FEET MSL		UPPER AIR DATA		GEOMETRIC COORDINATES	
2. OCT. 78		293.05-122		32.62700 LAT DEG	
ASCENSION NO. 122		APACHE		105.34352 LON DEG	

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES (TN)	SPEED KNOTS	
93500.0	15.3	-46.1		23.5	587.1			1.000005
94000.0	15.0	-46.5		23.0	587.2			1.000005
94500.0	14.7	-45.9		22.5	587.3			1.000005

STATION ALTITUDE 3951.40 FEET MSL
 20 OCT. 78 1130 HRS MST
 ASCENSION NO. 122

MPN SIGNIFICANT LEVEL DATA
 4930050122
 APACHE
 TABLE XIX.

GEODETIC COORDINATES
 32.62700 LAT DEG
 106.39352 LONG DEG

GEOPOTENTIAL ALTITUDE DECAMETERS	DIRECTION DEG (TH)	WIND DATA		DEW PT DEP DEG C	TEMPERATURE		PRESSURE MILLIBARS
		SPEED MPS	U-S MPS		AIR DEG C		
2873.	9999.000	9999.000	-9999.000	99	-45.8	1.450+1	
2760.	262.	4.	0.	99	-46.6	1.720+1	
2660.	270.	5.	0.	99	-49.1	2.000+1	
2563.	269.	7.	0.	99	-51.7	2.320+1	
2397.	301.	5.	-3.	99	-53.5	3.000+1	
2291.	299.	6.	-3.	99	-55.5	3.540+1	
2075.	302.	4.	-2.	99	-62.7	5.000+1	
1870.	286.	6.	-2.	99	-67.7	7.000+1	
1657.	229.	21.	13.	99	-72.0	1.000+2	

.. WIND DATA NOT COMPUTED DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

STATION ALTITUDE 3951.40 FEET MSL
20 OCT. 78 1730 HRS MST
ASCENSION NO. 122

NAVIGATORY LEVELS
293005L122
APACHE

TABLE XX.

GEODETIC COORDINATES
32.62700 LAT DFG
106.39352 LONG DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	ATM DEGREES	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS	
857.0	5139.	17.2	1.6	35.	340.9	5.8	
800.0	6826.	14.3	.6	39.	259.1	3.7	
750.0	8405.	11.7	-.5	43.	221.7	15.6	
700.0	10489.	8.5	-2.1	47.	232.2	12.7	
650.0	12483.	3.4	-4.2	56.	259.3	14.9	
600.0	14607.	.7	-8.7	48.	264.5	23.2	
550.0	16879.	-4.1	-23.0	21.	242.2	19.9	
500.0	19236.	-6.5	-28.1	16.	233.1	23.9	
450.0	22003.	-13.3	-35.5	13.	234.5	21.3	
400.0	24915.	-20.	-39.2	16.	219.6	23.1	
350.0	26105.	-28.1	-34.0	52.	210.8	25.1	
300.0	31576.	-35.4	-15.9	33.	240.8	31.9	
250.0	35755.	-45.			245.5	46.4	
200.0	40517.	-56.4			251.5	69.1	
175.0	43274.	-61.5			251.9	78.4	
150.0	46194.	-64.8			258.9	72.9	
125.0	49997.	-68.4			266.4	49.2	
100.0	54375.	-72.5			229.5	39.9	
75.0	58718.	-69.0			257.0	18.3	
50.0	61344.	-67.7			285.6	12.6	
25.0	64004.	-65.4			267.5	8.5	
0.0	68069.	-62.7			302.3	6.8	
4.0	72233.	-53.7			266.2	12.7	
30.0	78440.	-53.0			301.5	10.7	
25.0	82508.	-52.0			256.7	9.3	
20.0	87274.	-49.1			270.0	10.7	
15.0	93523.	-46.0					

.. AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3951.40 FEET MSL
21 OCT. 78 1130 HRS MST
ASCENSION NO. 122

MRN MANDATORY LEVELS
293JCSJ172
APACHE
TABLE XXI.

GEODETTIC COORDINATES
32.62700 LAT DEG
106.39352 LON DEG

GEOPOTENTIAL ALTITUDE DECEMETERS	DIRECTION DEG (TN)	SPEED MPS	WIND DATA		E-W MPS	DEW PT DEP DEG C	TEMPERATURE		PRESSURE MILLIBARS
			N-S MPS	M-S MPS			AIR DEG C		
2851.	999.000	9999.000	-9999.000	-9999.000	-9999.000	99	-46.0		1.530+1
2660.	270.	5.	0.	0.	5.	99	-49.1		2.000+1
2515.	257.	5.	1.	1.	5.	99	-52.2		2.500+1
2397.	301.	6.	-3.	-3.	5.	99	-53.5		3.000+1
2214.	266.	6.	0.	0.	5.	99	-58.0		4.000+1
2075.	102.	4.	-2.	-2.	3.	99	-62.7		5.100+1
1963.	267.	4.	0.	0.	4.	99	-65.4		6.100+1
1870.	286.	6.	-2.	-2.	6.	99	-67.7		7.000+1
1790.	257.	9.	0.	0.	9.	99	-69.3		8.000+1
1657.	230.	21.	13.	13.	16.	99	-72.0		1.000+2
1524.	266.	25.	2.	2.	25.	99	-68.4		1.250+2
1414.	259.	37.	7.	7.	37.	99	-64.8		1.500+2
1319.	252.	43.	13.	13.	38.	99	-63.3		1.750+2
1235.	252.	36.	11.	11.	34.	99	-56.4		2.130+2
1191.	246.	24.	11.	11.	22.	99	-45.2		2.530+2
965.	241.	16.	8.	8.	14.	10	-35.4		3.100+2
857.	211.	13.	11.	11.	7.	17	-28.1		3.500+2
759.	220.	12.	9.	9.	8.	19	-27.0		4.000+2
671.	235.	11.	6.	6.	9.	22	-13.3		4.530+2
589.	233.	12.	7.	7.	10.	22	-6.5		5.100+2
514.	242.	10.	5.	5.	9.	19	-4.1		5.500+2
445.	264.	12.	1.	1.	14.	10	.7		6.000+2
380.	259.	8.	1.	1.	8.	08	3.8		6.500+2
320.	232.	7.	4.	4.	5.	11	9.5		7.000+2
262.	222.	8.	6.	6.	5.	12	11.7		7.500+2
218.	259.	2.	0.	0.	2.	14	14.3		8.000+2
157.	341.	3.	-3.	-3.	1.	16	17.2		8.500+2

.. WIND DATA NOT COMPUTED DUE TO MISSING RAD. AZIMUTH AND ELEVATION ANGLES.